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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,622	05/10/2001	Peter M. Will	06666/033002/USC 2857	4658
20985	7590	09/23/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			SHAFFER, RICKY D	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,622

Applicant(s)

WILL, PETER M.

Examiner

Ricky D. Shafer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 4, 6-18, 20-25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 19, 26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 August 2004 has been entered.

2. The numbering of the claims in this application is not in accordance with 37 CFR

1. 126. Newly added claims 30 and 31 have been properly considered as claims 31

and 32. A complete response to this communication must include the proper renumbering of the claims.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-3, 5, 31 and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, does not provide support for “applying a focused input optical beam”, “an output beam at a focused location”, “each single digital bit

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changes the focused location where said output is directed”, as recited in claim 1; “a focused optical beam”, as recited in claim 31; and a pencil-like focused output beam”, as recited in claim 32.

5. Claims 19, 26, 28-30 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, lines 2-6, the language “an array...elements” is vague, indefinite and/or confusing. It is unclear to the examiner how a plurality of said reflector elements of “an array of movable reflector elements” can possibly reflect toward another of said plurality of reflector elements of “said array of movable reflector elements”. It would appear to the examiner, if light was to be incident onto a single reflector element of an array of movable reflector elements, the light would reflect away from said single reflector element and thus away from said array of movable reflector elements. Accordingly, the above mentioned language is vague, indefinite and the metes and bounds of the claim is unclear.

In claim 28, line 2, the use of the language “said plurality of moving mirrors” lacks proper nexus with respect to the plurality of reflector elements of claim 19. It is unclear to the examiner, in view of the issue with respect to claim 19, whether the above mentioned language is referring to additional structure or lacks proper antecedent basis. If later is true, then claims 28 and 29 are identical.

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In claim 30, lines 9-13, the language “a device...series” is vague, indefinite and confusing. It is unclear to the examiner whether the language “a series of movable mirrors” is referring to additional structure or whether the language lacks proper nexus/antecedent basis with respect to the reflector elements. Thus, metes and bounds of the claim is unclear.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Leddy et al ('493).

To the extent the claims are supported by the original specification, Leddy et al discloses an optical device comprising a source (24) for supplying an input optical beam to an array of movable reflector/mirror elements-DMD (28), wherein said input optical beam is reflected by said array of movable reflector/mirror elements to form an output optical beam at a focused location (26) and a controller (not shown) for controlling said array of reflector/mirror elements in a digital mode (see column 4, lines 45-52), wherein a scene generator generates multiple digital bits for each of the individual reflector/mirror elements of the DMD and said controller, based on each change of each single digital bit of said multiple digital bits, selectively controls said reflector/mirror elements and thus changes the focused location where said output beam is directed. Note Figures 1a and 5a to 12 along with the associated description thereof.

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leddy et al ('493) in view of Lin et al ('869).

Leddy et al discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the array of reflector/mirror elements having different sizes.

Lin et al teaches it is well known to employ different sizes for reflector/mirror elements in the same field of endeavor for the purpose of changing the phase of a wave front of a beam.

Therefore, it would have been obvious and/or within the level of one of ordinary skill the art at the time the invention was made to modify the reflector/mirror elements of Leddy et al to include different sizes, as taught by Lin et al, in order to change the phase of a wave front of a beam so as to increase the processing of information.

10. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference numeral (236), shown in Fig. 2, reference numerals (1) and (2), shown in Fig. 3A, and reference numeral (554) in Fig. 5C. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37

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CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

11. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numeral (101), disclosed on page 3 of the specification, has not been illustrated. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

12. The disclosure is objected to because of the following informalities: On page 3, line 5 of the specification, element (108) should be changed to read --107--.

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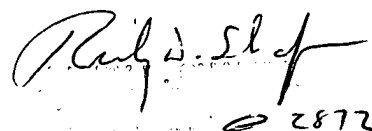
Appropriate correction is required.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricky D. Shafer whose telephone number is (571) 272-2320. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RDS

September 20, 2004



Ricky D. Shafer
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